

An abstract painting with a textured, expressive style. The background is a deep, vibrant blue. Scattered across the canvas are several large, soft-edged shapes in bright yellow and red, some with greenish-yellow halos. The colors are blended and layered, creating a sense of depth and movement. The overall mood is dynamic and energetic.

JUSTICE, EQUITY + SUSTAINABILITY

PROJECTIONS *volume 8*
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**BARRIERS TO CHANGING ALBERTA'S
OIL AND GAS TENURE SYSTEM :
LESSONS FROM AN OIL-DEPENDENT
STATE**

ABSTRACT

This paper explores shortcomings of the oil and gas industry tenure to address the common values of integrated resource management, and barriers to changing this system as indicated in 33 key informant interviews in Alberta, Canada. The results indicate that key actors responsible for integrated resource management in Alberta have differential influence on land use. In essence, the oil and gas industry not only has privileged access to land, and privileged accounts of reasonable mitigation actions, but also tolerance of a broader public that has generally viewed oil and gas expansion as fixed and essential to economic growth. Barriers to changing the system include the provinces' preference for immediate economic benefits through resource extractive activities; the reluctance of critical groups to pursue legislative reform; industry's aversion to legislation; and the difficulty of altering a complex tenure system. The authors conclude that potential reforms to the oil and gas tenure system fail to address cumulative impacts and public land management values that include ecological objectives. Core issues of social justice, supported by an increasing public understanding of land as a place of social history and future habitation, are likely to expose the nature of the oil and gas allocation system, the privileges it confers, and the facilitative role the tenure system plays in short term decision-making that precludes integrated resource management. We conclude that the myth that Albertans can have multiple industrial and social activities on the land base, and continued economic growth, with few limits placed on oil and gas development will likely be challenged by core issues of social justice, equity and sustainability.

INTRODUCTION

Integrated resource management, as defined in the Alberta context, generally involves the coordination of two or more industries operating on the same land base, with the goal of reducing the overall impact of industrial activity and incorporating a range of ecological, social and economic values (Mitchell, 1986; Alberta Environment, 1999). Ecological values, such as maintaining ecosystem functions and healthy habitat for wildlife; economic values, such as maintaining residential property values and future options for other economic activities, such as farming or tourism; and social values, such as protecting justice and equity in the allocation and development of land into industrial land uses, are hotly debated in the Alberta context. Justice and equity issues are discussed in this paper by examining the mechanisms through which access to resources are gained and access privileges are sustained. We argue that social scientists should pay closer attention to the structure of property rights and tenure systems, particularly for petroleum resources, to understand how access to resources is gained and maintained and how this perpetuates privileges for a few at the expense of the broader public.

Thus, this paper identifies the shortcomings of the oil and gas industry tenure system in Alberta at addressing common values of interest in integrated resource management. Our broader framework recognizes that the natural resource policy process should “clarify and secure the common interest” (Clark, 2002, p.15) and it is the social processes, i.e., interaction among individuals, groups and institutions, and decision-making processes, that effect and reflect how values are shaped and shared in society. We describe the barriers to integrated resource management in the province of Alberta as articulated by thirty-three respondents in key informant interviews. Our guiding research question is: What are the opportunities and barriers to a provincial-led effort at integrated resource management? While there are legal scholars (Kennet, 1999 and 2002; Ross, 2002) who have done considerable work on Alberta’s policy shortcomings for public land management, and other social scientists who have critiqued the state’s role in the overall pace and nature of resource development in Alberta (Urquhart and Pratt, 1994; Urquhart, 1998; Epp and Whitson, 2001; Davidson and MacKendrick, 2004) there is a dearth of scholarship that incorporates the views of agents of social change, the very people involved with integrated resource management, to describe the existing impediments to reduce the industrial footprint on the land, particularly in terms of the oil and gas tenure system. These agents of social change are in critical positions to send signals back to their organizations, to respond to such impediments within their positions of authority, and to make integrated resource management a decision-making processes that contributes to sustainability.

This paper exposes the ways in which the tenure system, the social organization of ownership or legal access to a particular resource, hinders the possibility for integrated resource management, yet remains “off limits” as a focus for change. Ribot and Peluso (2003) argue that justice and equity in any resource tenure system must be addressed by examining the mechanisms through which access to resources is gained and access privileges are sustained. Such mechanisms permit differential ability for some resource users to gain, maintain, and limit other resource users’ access to particular resources. The role of oil and gas development in larger land management efforts, in general, has received scant attention from social scientists, apart from the important exceptions that focus on off-shore, or coastal oil and gas impacts (Freudenburg and Gramling, 1994b; Gramling, 1996, Picou, Gill and Cohen, 1997). We contend that the Provincial government’s preference for economic growth over the distant ecological costs deters changes to the oil and gas tenure and regulatory system. Additionally, we argue that respondents in our study tended to refer to landscapes as commodity zones *first*, above other uses, and thus accept mitigation and “best [industrial] practices”, in lieu of any fundamental changes to slow oil and gas development. In fact, we argue that justice and

equity around the allocation of oil and gas leases and the environmental impacts that follow have been overlooked given the powerful storylines in Alberta about “oil as king.” This paper contributes to scholarship that exposes equity issues in one of the most destructive, but most lucrative and economically critical, activities in the world.

Background

Access to and management of resources is an ideal focus to examine equity and justice, particularly when such resources are publicly owned. Such is the case in Alberta where the majority of land in the province is “Crown land” or held in public trust. Subsurface rights in Alberta are also held by the Crown, allocated to mineral-based companies through a leasing and royalty payment system. The goal of integrated resource management recognizes that many people share a land base, and the land base itself holds within it layers of public and private rights to access. Walther (1987) addressed difficulties for integrated resource management in the boreal forest nearly 20 years ago by focusing on the importance of regional planning bodies who had the authority to limit resource allocations and new development activities, but he did not discuss the details of oil and gas tenure systems as a key part of those difficulties.

The province of Alberta is the wealthiest province in Canada, with the highest per capita income, one of the lowest unemployment rates, and the lowest business and personal tax rates of all Canadian provinces (Government of Canada, 2002; Statistics Canada, 2003; Frontier Centre for Public Policy, 2003). Since the 1940s, the economic strength of Alberta has been largely attributed to the successful extraction, production, and sale of oil, gas, and, more recently, oil sands resources (Government of Alberta, 2005). While the agriculture and forestry industries make significant contributions to the provincial economy and employment, the economic dominance of the province is due to its wealth under the surface, in the form of conventional oil, gas, and oil sands deposits. For example, whereas the Alberta government collected \$72 million in timber dues and fees from the forestry industry in 2001 (Ministry of Sustainable Resource Development, 2002a), the government collected \$10.6 billion from energy royalties and fees in the same year (Alberta Finance, 2001). Conventional oil and gas resource harvests are expected to continue near current levels for the next 30 years, and the mining of oil sands bitumen is expected to go on well into the next century (Schneider, Stelfox, Boutin, and Wasel, 2003).

The province of Alberta owns 81% of the province’s mineral rights (Alberta Energy, 2002a), a system that differs from the United States where mineral rights are generally held by private landowners or the federal government. The provincial government manages these rights on behalf of Albertans.¹ Oil and gas companies wanting to drill an oil or natural gas well must obtain both surface and subsurface rights from the Government of Alberta. The subsurface rights are granted by the Department of Energy in the form of either a license (for two to five years) or a lease (for five years). Companies are required to prove that the resource is productive within the time frame of their tenure agreement or they will lose the rights to that resource (Alberta Energy, 2002b).

To obtain subsurface rights, companies will submit a request to the Crown (i.e., provincial) Mineral Disposition Review Committee that mineral rights to a certain parcel of land be offered for sale. During the eight weeks of notice prior to the sale, companies interested in the subsurface rights of that parcel may conduct seismic exploration (or purchase seismic information from other companies) to prepare a competitive bid for the sale, which requires no public review. Once a company has

purchased subsurface mineral rights, they must then obtain the corresponding surface rights, from the Sustainable Resource Development Department, in order to access the resource. It is at this stage of the permit process the province requires the company to address the ways in which land disturbance will be mitigated and reclaimed after the extraction is complete. It generally takes the Sustainable Resource Development Department 13 days to review an application for the development of a proposed well site, road or pipeline (Graham, 2001). If the land in question is part of a Forest Management Agreement area, an area-based disposition allocating the right to harvest timber, written consent must be obtained from the forestry company, though a Right of Entry may be obtained if the occupant declines to give consent (MacKendrick et al., 2001). Once subsurface and surface rights have been acquired, a company must then obtain drilling licenses from the Alberta Energy and Utilities Board (EUB), a quasi-judicial agency that operates independent of the Government of Alberta, and requires applicants to identify sensitive areas, document efforts to notify landowners, occupants, and other sectors of the public, and address any outstanding concerns (MacKendrick et al., 2001).

Government revenue from the oil and gas industry is composed of the bids made by companies to purchase the mineral rights plus the royalty payments that are made over the production life of a well (Alberta Energy, 2003). The rate of royalties collected for both conventional oil, as opposed to heavy oil from the tar sands, and natural gas are sensitive to current market prices, the quality of the product being extracted, and the productivity of the lease. The royalty system also consists of various "royalty holidays" to encourage certain types of oil and gas developments (Alberta Energy, 2003).

Cumulative Effects of Industrial Development

Alberta is currently realizing the cumulative environmental and social impacts of the development of its oil and natural gas reserves over the last half century. Along with other industrial impacts on the land surface, the exploration, drilling, and infrastructure development of the oil and gas industries have had significant impacts in the boreal forest of northern Alberta. Much of the northern half of Alberta is Crown land, leased out to forestry companies for timber harvest. Timber harvest levels are 20.5 million cubic meters annually - nearly double the harvest levels of thirteen years ago (Ministry of Sustainable Resource Development, 2002b), an increase largely due to new technologies that have allowed for commercial harvesting of additional species. Forestry industry clearings along with approximately 200,000 well-sites (Alberta Energy and Utilities Board, 2002) and hundreds of thousands of kilometers of linear disturbances in the form of seismic lines, access roads, and pipelines have greatly changed the face of Alberta's boreal forest in the last few decades, with unknown consequences for many of the species that live there and for northern communities (MacCrimmon & Marr-Laing, 2000; Natural Resources Services, 1998; Schneider, 2001). Some predict that the cumulative industrial footprint, in terms of density of linear disturbance and total area disturbed, could quadruple over the next 20 to 30 years (Timoney & Lee, 2001). How to best manage the cumulative social and environmental effects of all resource users in the boreal forest is currently the focus of many government, industry, and environmental organization initiatives, and is the focus of the interviews we held with members of these same groups.

Methods

The findings of this paper were generated from interviews with thirty-three respondents from the oil and gas and forestry industries, various government departments, and environmental organizations in Alberta in the Summer of 2001. More specifically, interviews were conducted with six forestry

industry representatives, ten oil and gas industry representatives, twelve government representatives from various departments, and five representatives from environmental organizations active in the province. The interviews were part of a qualitative study in which respondents were asked, through a series of more detailed questions, “What are the opportunities and constraints for integrated resource management in Alberta’s boreal forest?” “How does your organization address ecological, social and economic values in your resource management plans and activities?”²²

Findings

Above all, our key informants highlighted several problems with the oil and gas tenure system that result in negative impacts on the land base and conflicts between different resource users in a region. In particular, the short term planning horizon, the small size of the leased parcels, the lack of coordination with forestry, and the absence of tenure reform within recognized solutions for better integrated resource management exposes the inflexibility of a tenure system that maintains privileges for the oil and gas sector.

PROBLEMS WITH THE TENURE SYSTEM

Short-Term Planning Horizon

One characteristic of the oil and gas industry tenure system noted by the majority of respondents as a major impediment to integrated resource planning was the industries’ short-term land-based planning horizon. As one forestry respondent said, “The oil industry, they get an approval in about eight days when they need it bad enough and more often than not, that’s kinda the way they operate.” Land-based planning is done in the short-term by these industries for two reasons, the nature of the resource and the market-sensitive design of the tenure system.

Oil and gas reserves, being underground, are not visible and require seismic exploration to determine their location and quantity, making the timing of harvest unpredictable. Exploration for petroleum and natural gas is done by private companies and it is not until market forces provide the incentive for companies to locate resources that their whereabouts are known. In this respect, the oil and gas industries contrast with the forestry industry, which possess knowledge about the volume of their timber resources, conducts inventories, and thus can make long term plans for resource harvest.

We submit a management plan to the government for this FMA [forest management area] that has wood sequence for 10 or 15 years, minimum, probably more, and when we get down to operational planning we submit our plans, typically two years ahead of time to have them reviewed by government. (Forestry respondent)

In addition to the invisible nature of oil and gas resources leading to short-term land-based planning, the tenure system of these industries is specifically designed to be responsive to market forces.

[The oil and gas tenure system] is set up by the provincial government...in such a way that the government can derive as much revenue from the land sales as possible, which doesn’t really lead...to good planning because it puts pressure on the industry to get out there and get their information, which usually means doing seismic, in some cases it may even mean going in and drilling a well....It also puts pressure on government to get their approvals done...And so it doesn’t really give as much lead...for planning those activities. (Government respondent)

The sale of mineral rights takes place eight weeks after notice of a sale is given, with sales happening every two weeks. Within the eight week period between the notice and the sale, several companies with interest in the area may conduct seismic activities. The company whose bid wins the parcel of rights may begin activity a few weeks after the sale as surface access approvals are generally granted in under two weeks (Graham 2001). Thus a company's planning horizon for a given well-site may be less than three months.

Being market driven, industry activity can occur at a frenzied pace when oil or gas prices are high, and at a much slower pace when the profit margin for developments is lower. During times when prices are high, government departments are under great pressure not to slow down the activities on the land base with administrative procedures. As one oil industry respondent noted, "A lot of those applications are dealt with in a routine fashion...it's a bit of a rubber stamp." Routine approval procedures may indeed be the only way that as many as 18,310 wells were drilled in 2003 alone (Government of Alberta, 2005).

Forestry companies representatives, by contrast, noted their requirements to do long-term forest management planning and to be responsible for several aspects of land management for the entire Forest Management Area (FMA, a 20 year, renewable area-based agreement for the establishment, growth and harvesting of timber), including reforestation and environmental protection (Ross, 1995). Their long-term planning includes the development of annual operating plans that describe harvesting methods and proposed developments for the coming year, as well as strategic plans that describe management objectives and proposed developments for the lifetime of the FMA (MacKendrick et al., 2001).

While forestry companies are responsible for managing the forest in their FMA, they do not have authority over any other users. Their investments in their long-term plans are undermined by overlapping tenures in the forest. To not account for the activities of other land users in a forest management plan is "like burying your head in the sand," to use the words of one forestry industry respondent. This is especially true in certain areas where oil and gas companies may be clearing an equivalent amount of trees as the forestry company operating in the area (MacKendrick et al., 2001; Edmonton Journal, 2002). Unless oil and gas companies make longer-term land based plans and communicate their intentions with forestry companies, their activities cannot be considered in the forestry industry's FMA plans.

Space: Small Size of the Tenure Area

Nearly all respondents from forestry and environmental groups, and several oil and gas representatives also noted another feature of the tenure system that was problematic for integrated land management: tenure is allotted for small areas of land on a parcel-by-parcel basis. When companies request the sale of mineral rights, the area of land can be as small as 256 hectares of land (one section) or as large as 9,216 hectares (36 sections), depending on the region of the province (Alberta Energy, n.d.). In practice, most parcels are well below the maximum size (Schneider, 2001) with the average parcel area being around 500 hectares (less than two sections) (Alberta Energy, 2002c).

Companies who have a development in an area often wish to purchase adjacent subsurface rights to take advantage of the roads, pipelines and other infrastructure they have developed and to continue the development of the oil or gas field into which they have tapped. While companies can attempt to consolidate a larger area of land, there is no guarantee that the mineral rights they requested will not

be bought by another company on the day of the sale, thus generally numerous companies are usually working in the same area.

We go on almost a section by section basis for mineral rights, so we're competing for every section around there with somebody else. And all somebody has to do is you drill a well, you find something, the neighbor posts the section next to it and all of sudden you're in a race for the section next to it, the section next to that, the section next to that. So it's the tenure system itself leads to some problems....We find that once you get to the point where you consolidate a fairly substantial chunk of land...then...you have control over your road system, you have control over your infrastructure, pipelines, you can manage access, you can start doing a lot more things there. (Oil and gas industry respondent)

Respondents argued that while this system of selling mineral rights in small parcels is beneficial from the perspective that it allows for many companies of all sizes to be involved in the industry, thus preventing any monopolization of the market by larger companies (Haley and Luckert, 1990), as well as giving companies greater flexibility in responding to market forces, it also leads to several problems with regards to land management. The sheer number of companies that may be working in an area makes it an onerous task for government and forestry staff to attempt any landscape planning with involvement of the oil and gas industry. One forestry company in Alberta reports having 200 oil and gas companies working in their Forest Management Agreement Area (Edmonton Journal, 2002), thereby prohibiting effective communication for the purposes of integrating planning. To add to this, these companies change on a frequent basis as take-overs and mergers are common in the industry, and tend to be in one place for a short duration.

Coordination of activities on the land base may also be impeded by poor *intra*-company integration of activities, as one oil and gas industry respondent suggested.

The normal structure within petroleum and natural gas companies [is that they] have an exploration or development group and a construction group and a pipeline group and a processing group. And they are...independent divisions of each other.... and make decisions based on the best interest of their group rather than the best interest of the overall group.

Because both approvals and development occur in several phases - exploration, drilling, production, and reclamation - companies may not have a complete plan for a development when activity begins. This may result in multiple access corridors to the well-site if, for example, transmission line routes are not considered at the time of building the access road.

Land Withdrawals for Forestry Tenure Holders

Forestry respondents in particular spoke about significant consequences of oil and gas activities on the land for the forestry industry. Replete throughout the interviews with forestry personnel are voiced concerns about the potential of land withdrawals for oil and gas activity to greatly diminish a company's forest management area that can result in a reduced annual allowable cut (timber volume the province allows to be taken from a particular FMA). If their productive land base becomes too small, the annual allowable cut for the company may be reduced which, in some cases, may lead to the closing of production facilities.

Forestry respondents in particular noted that the trees cut for seismic lines are often not salvaged by forestry companies. In many cases, this wood cannot be salvaged simply because coordinating pick-up on such short notice, with activities often happening far from where the forestry company is operating at the time, is logistically difficult and expensive. Much of the wood is also damaged and consequently left to rot where it was placed. Though this is of concern to forestry companies who would prefer that this wood be brought to their mills to be processed, the bigger concern in the interviews was the impacts of long term permanent land withdrawals from pipeline and well-site developments that follow seismic activity, given the slowness of reclamation (replanting and regrowth) processes.

SUGGESTED SOLUTIONS

When asked how the integration of activities in the boreal forest, particularly those of the oil and gas and forestry industries, could be better achieved, the most common responses among our respondents was to bring different players together so they can learn more about each other's operations, and thus find ways to better coordinate their activities, although *none* of the environmental organization respondents suggested this. This is likely because the focus of environmental organization respondents was largely on policy level issues, as opposed to operational level coordination. Environmental organizational respondents were strong supporters of the need for public involvement to further integrated resource management (IRM) and suggested that the starting point for IRM should be to identify public values and goals for land management.

Two respondents commented on the how collaborative policy processes were undermined by backdoor lobbying on the part of oil and gas industry, to which the environmental respondents did not feel they had access; three respondents believed that government was neglecting their role as a steward of public lands; and four respondents spoke of a bias in the province towards economic values that supersedes environmental considerations. These comments were unique to the environmental organization respondents, illustrating that their perspectives on land management may be different than those of other respondent groups and suggesting that their perceived influence over policy decision-makers differs as well. For example, one environmental organizational respondent commented after participating in an integrated land use initiative that did not influence any land use decisions,

The answer that we came up with is that we're not on the same political playing field, that the power dynamics are not even. So, ultimately, when the real decisions are to be made - not the ones that were made around the table, where all of us were...arguing lots but eventually we came to things we all agreed on - but those were not the real decisions. The real decisions came afterwards, and they were based on where the true power dynamics lie.

Suggestions to change the tenure system and regulatory regime of the oil and gas industry were not as common as one might expect given the numerous criticisms of the system articulated by respondents. Only two forestry respondents, both of whom were involved with integrated resource management efforts, and one government respondent who was also involved with an IRM initiative, suggested that reforming the oil and gas tenure system was necessary to significantly reduce industrial impacts on the land base. When these same respondents were queried further about possibilities to change the tenure system, their responses were generally fatalistic, suggesting that changing the current system was not politically possible given the province's dependence on oil and gas revenues and employment.

By and large, [Albertans] like the benefits we're getting from oil and gas; we're not going to shut down what's going on...because of what it's doing to the environment. (Forestry respondent)

DISCUSSION

If it is the case that there are characteristics of the oil and gas tenure system in Alberta that lead to negative impacts on the land base and to conflicts with other resource users, then why was changing the tenure system not considered a more reasonable solution by our respondents? This portion of the paper will discuss possible answers to this question.

First, we contend that the Provincial government's preference for the immediate, tangible economic benefits over the uncertain, distant ecological costs deters changes to the oil and gas tenure and regulatory system. The problems discussed in the Findings section of this paper illustrate that the oil and gas tenure system in Alberta is not designed for land management objectives as much as it is to encourage oil and gas extraction and development and to make efficient use of the petroleum and natural gas resources in the province (Alberta Energy, 2002b). Indeed, the oil and gas industry's central economic role in the provincial economy, for over 50 years, is the most obvious factor that insulates the industry and its policy regime from change. In 2003, revenues to the province from crude oil and natural gas accounted for more than 30% of Alberta's total revenues (CAPP, 2005) and employed 95,400 jobs (Government of Alberta, 2005).

With such enormous benefits coming from the oil and gas industry for the province, it is understandable that the general population and government alike would be willing to accept some amount of environmental degradation in exchange for the economic returns from the industry, and that widespread delayed recognition of the impacts, and the tenure and regulatory changes such impacts portend, might follow. However, the accelerated nature of oil and gas development in the past 20 years, with the additional intensity of forestry, has permitted corporate owners to dominate land use decisions in the boreal forest of Alberta and they have not been beholden to any larger land use framework or set of thresholds, to stay under specific limits for ecological impacts. Both the oil and gas tenure system and the forest management lease system has incorporated no (oil and gas) or limited (forestry) public involvement in the initial set up of the lease system that allocates numerous (oil and gas) or large (forestry) tenure privileges.

Another potential explanation why reform of the tenure system is not currently being considered is that our respondents were somewhat fatalistic about government responsiveness to requested changes in the tenure systems, arguing that many of planning processes have been symbolic in nature, followed by no meaningful government action. All of the environmental organization respondents in this study spoke about their frustrations with past policy processes around forest management planning, and protected areas in Alberta, where public input was solicited but largely disregarded in the final outcome of the process. As one member of an environmental organization involved in past public involvement processes in Alberta said, "After all is said and done, all they've done is said" (Timoney & Lee, 2001, p. 389); which indicates that despite public consultation and debate, implementation of integrated resource management has not occurred. Environmental groups' respondents indicated a lack of trust in government processes to the point that they refuse to take part in further initiatives until significant changes are made in the processes (Fluet, 2003).

The frustration of these groups was evident in other comments made by the environmental organization respondents. Indeed, their perception of an uneven political playing field has led them to the conclusion that lobbying for legislative reform without altering the political playing field through broad public involvement would be fruitless. Without pressure from the forest sector, regional interest groups, and environmental groups to change the regulatory regime of the oil and gas industry, provincial oil and gas tenure policies continue to be accepted as unchangeable in discussions of integrated resource management.

While environmental groups may not be promoting tenure reform out of frustration, we suspect industry would like to avoid tenure reform out of fear. Security, with regard to tenure agreements, is “a function of trust tenure holders have in the socio-political system within which their rights have been granted” which “depends on their past experiences with the system and the probabilities they attach to the chance of detrimental changes taking place in the future” (Haley and Luckert, 1990). Several industry respondents in our research asserted that additional regulations would compromise the company’s ability to find creative solutions to reducing their industrial footprint, and coordinating land use with others. These same respondents often cited the recent Forest Practices Code in British Columbia as overly restrictive legislation, where they claim industry is unable to use their individual company ingenuity and forest management expertise to use various options to reach the same desirable outcomes as intended by the Forest Practices Code. These industry respondents held that they do not want to see similar legislation in Alberta. For this reason, the suggestions from industry as to how to mitigate the negative impacts of the tenure system were focused on working within the system, rather than opening the door to uncertainty by considering legislative changes.

The anti-regulation argument and support for voluntary measures for improved industrial environmental performance has been cited in several other environmental conflict cases (Krogman, 1998; Schnaiberg and Gould, 1994; Freudenburg and Gramling 1994a; 1994b). The exceptions to this generalization were two respondents from forestry companies who are actively engaging in integrated resource management efforts. Davidson & MacKendrick (2004) argue that industry’s ability to use language around “best practices” combined with Alberta government’s use of ambiguous goals such as sustainable development, cooperation, and communication obscure the issues around regulatory reform to address cumulative industrial development effects. Our research supports this argument in that the vast majority of respondents made suggestions about tinkering with the system, and voluntary efforts, rather than changing the tenure system, the very structure of the resource allocations, to reduce the industrial footprint on the landscape.

Another barrier to changing the oil and gas industry tenure system is the uncertainty regarding which changes would rectify the shortcomings of the tenure system with regard to land management objectives. The current tenure system, involving multiple phases of development of the resource as well as multiple government departments, is the product of decades of decisions. As Freeman (1992) suggests, the cumulative outcome was not the result of an explicit decision, rather, the outcome has resulted from a “tyranny of small decisions”. A multitude of subsequent decisions has created an organizational hierarchy and elaborate process for oil and gas development – it is difficult for those invested in the process to entertain options that reverse this long pro-development trajectory.

Charles Lindblom’s (1959) “science of muddling through” suggests that although ideally policy analysts would go through a comprehensive, rational consideration of all possible policy alternatives that take into account a large number of values, the reality is that policy analysts are too limited in

time, resources, and ability to undertake such a comprehensive analysis of any policy decision. In fact, attention to an issue may wane when studies reveal the complexities of the problem, the great expense to address the problem, and the lack of easy solutions (Cobb & Ross, 1997). Thus, because the impacts of any large changes in policy cannot be accurately predicted, it is safer to either stay with known problems or to make incremental changes in policy whose outcome is easier to predict and potentially reverse, but which may be insufficient to address the root of a problem.

Attempts to reform the oil and gas tenure system in Alberta are additionally hindered by the limitations of policy making. The volume and complexity of legislation and policy for the oil and gas industry alone may make it difficult to predict the consequences of any reforms or to find easy and inexpensive solutions. Add to that the legislation and policy for the other resources and activities on the land base and the complexity multiplies. The elaborate structure of the oil and gas industry tenure system has built up over time so that industry and government actors have developed specialized, routinized, and interdependent pro-production processes that cannot be easily altered.

Finally, social constructionists offer another perspective as to why the oil and gas tenure system is protected from change in Alberta. Hajer argues that “social constructionism and discourse analysis add essential insight to our understandings of contemporary environmental politics” (1995, p. 263). Similarly, Cobb and Ross suggest that attention must be paid to the “political uses of culturally rooted resources” to understand the outcomes of con ict (1997, p.4). Both of these works suggest that in addition to the material basis for the protection of the oil and gas industry, there is an ideological basis about rightful access to a land base for its development. The repeated “storylines” (Hajer, 1995) of the supremacy of the oil and gas industry in the province serve to sustain the legitimacy of the industry’s regulatory institutions, despite the concerns many Albertans have over the impacts of the industry in the boreal forest (Nikiforuk, 2001). Comments from respondents in this study indicate that the oil and gas industry has effectively been placed in a “black box”, that is, the activities of the oil and gas industry have been made to appear as “fixed, natural, or essential”, no longer in need of consideration (Hajer, 1995, p. 272). Constructionist perspectives on environmental con ict are important to consider in the Alberta case in order to understand how certain courses of action, such as reforming the oil and gas industry tenure system, may be excluded from discussion (Krogman, 1996).

Bridge’s (2001) work on primary resource spaces also supports this perspective, as he argues that a place’s character and identity may be claimed by invoking the commodity as its defining characteristic. Bridge suggests that, “A frequent construction of the commodity space...is that of the asocial void, a depopulated space without socioecological complexity existing outside time and space” (p. 2,154). Thus, a process of “erasure” takes place, where social and ecological complexities are erased from the landscape, along with a process of “reimagination”, where the commodity is invoked as the defining characteristic of the landscape. These processes of erasure and reimagination may be applicable to the Alberta setting, where the defining characteristic of the province is often portrayed as captured in the abundance of oil and gas resources, and its cornucopia of spin-off benefits, while the human populations and ecosystems of the boreal forest are under-emphasized.

The privileged status of oil and gas companies, and the public acquiescence to this privilege, has generally obscured the justice, equity and sustainability issues embedded in the oil and gas tenure system. However, we see many frames of injustice that increasingly expose how the allocation process disproportionately confers disadvantages or risks to rural residents. For example, many Aboriginal bands have ardently pointed out how oil and gas activities threaten their people’s ability to continue hunting, fishing, and trapping on their traditional territory, which is linked to their Aboriginal

Treaty rights, identity, and more centrally, their overall well-being (Fluet and Krogman, 2009). As social justice issues are continually exposed, and the *relationship between rights and responsibilities* become more apparent, we suspect the average person in Alberta will challenge the current trends of oil and gas allocations, and call for a different set of assessment criteria to permit its expansion. Current public debates around the water shortages (oil and gas development is heavily dependent on water) and eventual post-oil economy may also prompt Alberta residents to question Alberta's role in maintaining its high standard of living to extract a resource in a landscape that will need to be used in future by many other people, and for other purposes, such as food production. As Clark (2002) points out, "When conditions and environmental relations change, the supporting myths also change" (p. 23). We argue that the issues of human respect and dignity, as linked to government responsibilities to protect human safety and health, will continue to move the oil and gas tenure system into the fore of public discussion as a necessarily changeable allocation system.

CONCLUSION

The context in which energy policy must be formulated- a context of powerful vested interests, of great demands upon society's limited resources, and of undeniable costs as well as benefits for society – argues that decision-making with respect to energy policy can no longer be the sole preserve of a small, technically oriented, and largely non-elected (and non-accountable) group of individuals; rather it must be broadened for debate and discussion by much larger numbers of people in a process of a political nature. (Macdonald, 1979, p. 202)

This paper addresses the hidden equity and justice issues in the current tenure system for the oil and gas industry in Alberta in terms of the limited opportunities for multiple values of the land base to be protected through integrated resource management. In particular, the short term planning horizon, the small size of the leased parcels, the lack of coordination with forestry, and the absence of tenure reform within recognized solutions for better integrated resource management involves social and decision-making processes that maintain privileges of access and control for the oil and gas sector. While the current tenure system is successful in promoting oil and gas production - the task for which it was designed - it is failing to address current land management issues that have arisen as a result of the densely occupied land base where industrial operations frequently overlap, as well as a shift in public values that now include ecological objectives and increasingly recognized social values of land as a place of social history and potentiality.

In Alberta, oil and gas resources are a Crown resource, as is most of the land surface from which it is taken and developed. The surface is now the subject of significant public concern, increasingly identified with multiple social and ecological values. While more research is needed to further understand ways in which the short-comings of the current tenure system could be addressed, as the above quotation suggests, the trade-offs need to be debated by the public at large whose values the tenure system should be upholding.

While people in Alberta may be well socialized to accept the notion that 'oil is king', the environmental impacts, in particular, of oil and gas development are increasingly exposed through science, social movements, and media-covered controversies describing contested spaces of confrontation between

the cultural construction of land as a commodity, and land as a place of social history or potentiality. Tensions among an increasing number of land users and self-appointed land stewards will likely prompt challenges to the allocation of the leases that originally permitted oil and gas activity in specific places of contestation. Thus, as Clark (2002) notes, “myths...sometimes become outdated and maladaptive so that mythic residues from past times may no longer explain and integrate people’s current experiences meaningfully” (p. 23). In this case, the myth is that Albertans can have multiple industrial and social activities on the land base, and continued economic growth, with few limits placed on oil and gas development. We believe the issues of social justice, equity and sustainability will constitute the key challenges to bust this myth.

AUTHORS' BIOGRAPHIES

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[ENDNOTES]

1. The tenure system and regulations for the oil and gas industry have evolved into a complex structure since Alberta was given jurisdiction over Crown mineral rights by the federal government in 1930. The basic structure of the current system has been in place since 1976, with various amendments having been made as recently as five years ago (Alberta Energy 2002b).

2. We generated the sample of interviewees starting with a list of frequently identified experts on oil and gas, as indicated by initial government, industry and academic contacts, and then, using a purposive sampling technique, individuals were selected by the researchers because of special knowledge they possess with respect to the research topic (Neuman 2000) and referrals by the interview participants themselves for others “who may share a different perspective than their own.” All individuals were directly involved in land use decision-making, planning, or land policy advocacy. We felt confident in reaching “key informants” given the repeat suggestions from the interviewees that we interview those we already included in our sample, as there are a limited number of people in Alberta who work in these key roles. The majority of the respondents from industry and government were mid-level managers involved in coordinating the operational aspects of the two industries, where as the environmental organizational respondents were generally key leaders of those organizations.

We generally made initial contact by phone, then arranged one-on-one, semi-structured interviews with respondents in an office setting. Interviews generally lasted about an hour; the transcribed interviews were coded and analyzed using NVivo, a qualitative data analysis software in a set of iterations that began with multiple codes, the later condensed into key themes most frequently represented in the interviews. The researchers identified major themes in the responses and made comparisons within and across the environmental organizations, industry and government participants’ responses.

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